

A new species of the genus *Myrmarachne* (Araneae: Salticidae) from the Central Ryukyus and Taiwan

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Abstract — A new ant-like spider species, *Myrmarachne latithoracica*, is described using the specimens from the Central Ryukyus and Taiwan.

Key words — *Myrmarachne latithoracica*, new species, Central Ryukyus, Taiwan

Introduction

An undescribed species of the genus *Myrmarachne* has been recorded from the Central Ryukyus and Taiwan (Huang, 2004; Tanikawa, 2004). Although Huang (2004), in his master thesis, described this species as “*Myrmarachne laticorseleta*”, the name is not taxonomically valid because the thesis has not been published yet (Platnick 2011). In the present paper, it is formally described as *M. latithoracica*.

Materials and methods

All measurements follow Yamasaki (2010) and are given in millimeter for the holotype and four paratype males, and five paratype females. The range from the smallest to the largest is shown with the holotype measurements in parentheses. Chelicera length is not shown for females. The abbreviations used in this paper are as follows: ALE, anterior lateral eye; AME, anterior median eye; PLE, posterior lateral eye; PME, posterior median eye; pd, prodorsal; pv, proventral; rv, retroventral; BMNH, Natural History Museum, London; MIZ, Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw; NMNS, National Museum of Natural Science, Taichung, Taiwan; NSMT, National Museum of Nature and Science, Tokyo. The holotype and paratypes designated in the present paper are deposited at BMNH, NMNS and NSMT.

Specimens examined for comparison with *M. latithoracica* are as follows: holotype male of *Myrmarachne gigantea* (MIZ 217157), Thanh Ha, Hoa Binh prov., Vietnam, 14–VI-1966, R. Bielawski and B. Pisarski leg.; paratype male (MIZ 217158) and allotype female (MIZ 217159) of *M. gigantea*, Cuc Phuong, Ninh Binh prov., Vietnam, 9–VI-1966, R. Bielawski and B. Pisarski leg.

Myrmarachne latithoracica sp. nov. (Figs. 1–13)

Type material. Holotype (NSMT-Ar 9623): male, Yonaha-dake, Kunigami-son, Okinawa-jima, Japan, 13–VI-2004, A. Tanikawa leg. Paratypes: 1 female (NSMT-Ar 9624), Jinshueiying, Chunrih, Pingtung county, Taiwan, 30-IV-2003, Z. C. Lin leg.; 1 male (NMNS), Shoka, Shizih, Pingtung county, Taiwan, 30-IV-2003, H. D. Jhu leg.; 2 males and 2 females (1 male, BMNH; 1 female, NSMT-Ar 9625; 1 male and 1 female, NMNS), same data as the holotype; 1 male and 1 female (NSMT-Ar 9626–9627), Naze-shi, Amami-oshima, Japan, 17–VI-2004, Y. Baba leg.; 1 male (NSMT-Ar 9628), Daruma-yama, Kume-jima, Japan, 8–III-2005, Y. Baba leg.; 1 male and 5 females (1 male and 4 females, BMNH; 1 female, NSMT-Ar 9629), Yonaha-dake, Kunigami-son, Okinawa-jima, Japan, 30–VI-2008, T. Yamasaki leg.; 3 females (NSMT-Ar 9630–9632), same loc., 5–VII-2008, T. Yamasaki leg.; 2 females (NMNS), same loc., 6–VII-2008, T. Yamasaki leg.

Etymology. The specific name is derived from their broad thorax.

Measurements based on the holotype male, four paratype males and five paratype females (male/female). Carapace length 2.35–3.15 (2.90)/ 2.85–3.35, width 1.40–1.90 (1.70)/ 1.63–1.88. Chelicera length 1.05–1.50 (1.28). ALE–PLE 1.05–1.28 (1.22)/ 1.28–1.42; ALE–PME 0.50–0.65 (0.65)/ 0.65–0.70. Width of eye row I 1.38–1.75 (1.63)/ 1.65–1.85; II 1.23–1.58 (1.43)/ 1.48–1.68; III 1.48–1.88 (1.73)/ 1.78–2.03. Eye size of AME 0.43–0.52 (0.52)/ 0.52–0.60; ALE 0.22–0.27 (0.25)/ 0.27–0.30; PME 0.08–0.10 (0.10)/ all paratype females 0.09; PLE 0.25–0.32 (0.32)/ 0.30–0.35.

Diagnosis. *M. latithoracica* has a relatively broad thorax in dorsal view. The males have a short chelicera (less than half the length of carapace) and robust leg I. The short

chelicera is very unique among the *Myrmarachne* species. The females have a very simple epigyne consisting of two round copulatory openings and slightly curved spermatheca ducts.

Male (Figs. 1–7). Carapace broad in dorsal view, and concaved between head and thorax in profile; head slightly higher and broader than thorax. Chelicera short with six teeth on anterior margin and seven teeth on posterior margin of fang furrow. Fang short without apophysis. Sternum relatively broad, and slightly overlapped by coxae I and II. Leg I robust compared with other legs; femur I basally broad. Leg formula IV-I-III-II. Abdomen slender with dorsal scutum.

Palp (Figs. 5–7). Cymbium oval with two apical spines (sometimes one spine). Tegulum oval, with seminal reservoir along the inner edge of tegulum. Embolus forming two large oval coils occupying more than half of cymbium in ventral view. Retrolateral tibial apophysis weakly S-curved in profile. Flange of retrolateral apophysis well-developed.

Number of spines on legs in the holotype and paratype males is as follows. The figure for the holotype is given in parentheses. Patella I pv 1–2 (1), rv1 (1); tibia I pv 5–7 (5), rv 5–7 (6); metatarsus I pv 2 (2), rv 2 (2); tibia II pv 2–3 (1), rv 2–3 (3); metatarsus II pv 2 (2), rv 2 (2); (in some individuals, femur III pd 1, the holotype lacking in prodorsal spines on femur III).

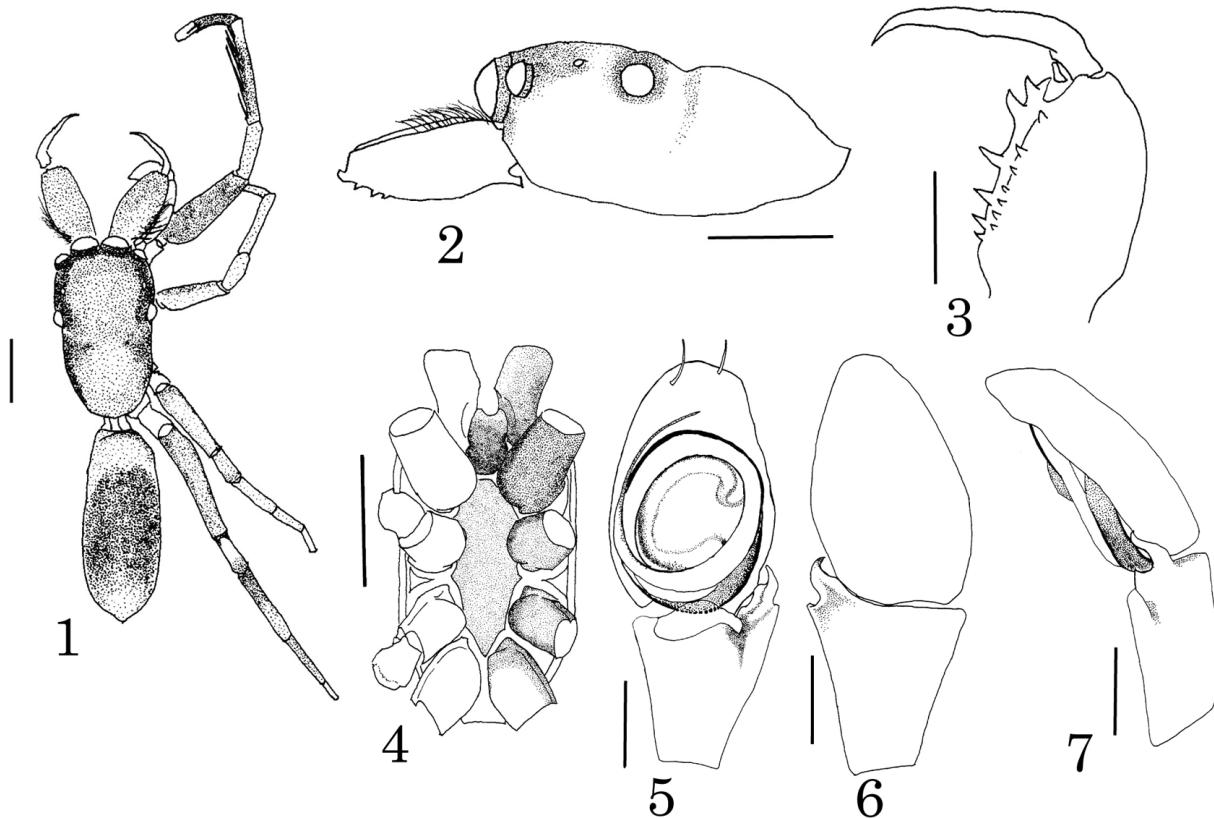
Coloration. Carapace orange to dark brown, very sparsely covered with white hairs; surroundings of eyes black. Chelicera brown; white hairs fringing the outer edge from base to middle. Maxilla and labium brown. Sternum orange. Abdomen grey and dorsal scutum black or dark brown; areas except for dorsal scutum covered with long distinct white hairs; dorsal scutum sparsely covered with short thin hairs. Legs light yellow to light brown; femur I and metatarsus I distinctly black.

Female (Figs. 8–13). Carapace broad; head and thorax approximately of same width. Chelicera with six or seven teeth on anterior margin and seven or eight teeth on posterior margin of fang furrow. Sternum almost same as in the male. Leg formula IV-I-III-II. Abdomen oval.

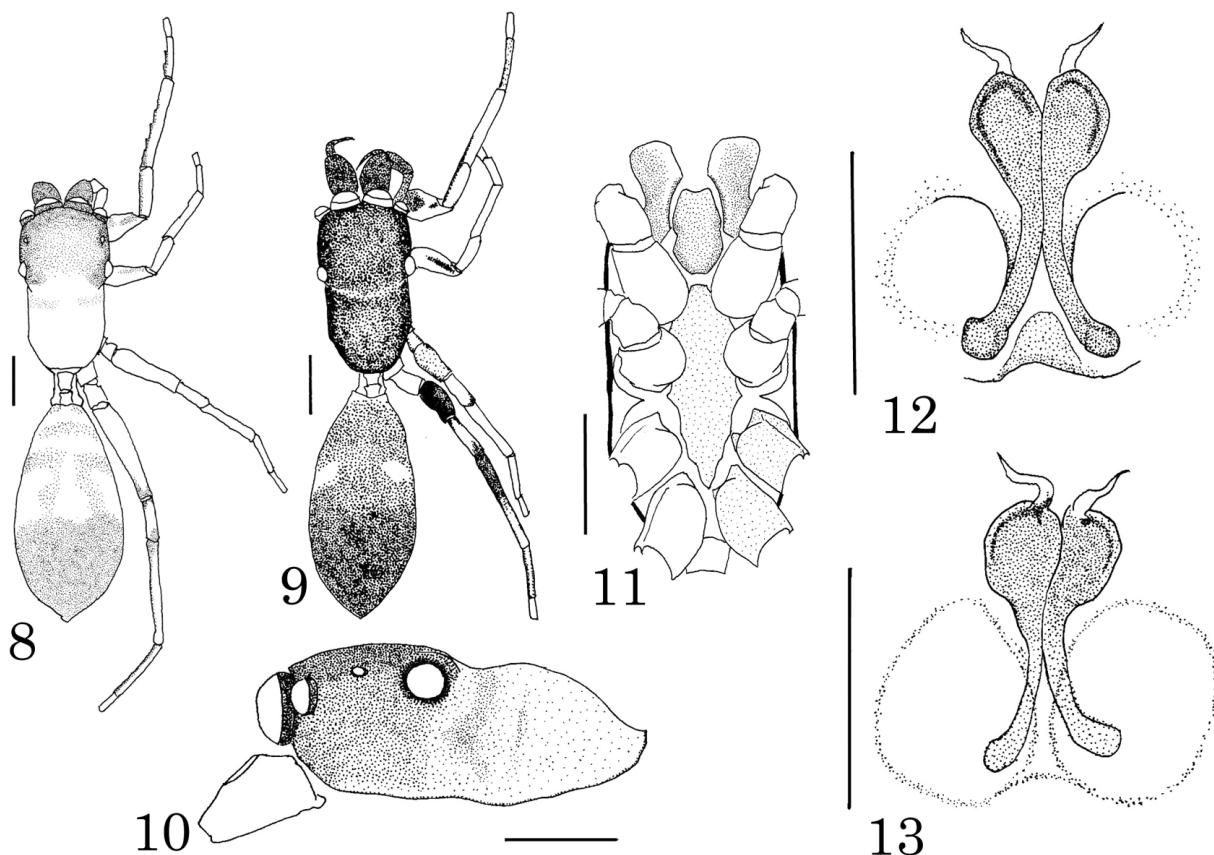
Epigyne (Figs. 12–13). Copulatory opening large and round. A triangle pouch present in front of epigastric furrow. Spermatheca ducts slightly curved inward with no twist.

Number of spines on legs in paratype females. Patella I pv 2–3, rv 1–2; tibia I pv 7, rv 6–7; metatarsus I pv 2, rv 2; tibia II pr 3–4, rv 3–4; metatarsus II pv 2, rv 2.

Coloration. Carapace variously coloured with a transverse zone of white setae roughly marking the border between head and thorax (setae sometimes very sparse or lacking); hairs on surface more sparse than in the male; surroundings of eyes black in paler specimens; head dark



Figs. 1–7. *Myrmarachne latithoracica*, male. 1. Body, dorsal view; 2. Carapace and chelicera, lateral view; 3. Left chelicera, ventral view; 4. Carapace, maxillae, labium, coxae of legs, and sternum, ventral view; 5. Left palp, ventral view; 6. Left palp, dorsal view; 7. Left palp, lateral view. (Scales. Figs. 1–2: 1 mm; Fig. 3: 0.5 mm; Fig. 4: 1 mm; Figs. 5–7: 0.25 mm)



Figs. 8–13. *Myrmarachne latithoracica*, female. 8. Body, dorsal view; 9. Body, dark individual, dorsal view; 10. Carapace and chelicera, lateral view; 11. Carapace, maxillae, labium, coxae of legs, and sternum, ventral view; 12. Epigyne, ventral view; 13. Epigyne, dorsal view. (Scales. Figs. 8–11: 1 mm; Figs. 12–13: 0.25 mm)

brown to black; thorax orange to dark brown; Chelicera dark brown. Maxilla and labium light brown. Sternum light orange. Abdomen cream with two white-haired spots in anterior part; with grey or black areas in pale specimens, but more extensively grey or black in darker specimens. Legs light yellow to light brown.

Distribution. Central Ryukyus (Amami-oshima, Okinawa-jima, Kume-jima), Taiwan.

Remarks. This species is recognizable by the short chelicera and robust leg I in the male, and the simple structure of epigyne in the female. This species shows a variation in carapace dermal colour ranging from orange to black. The extremely pale females look very different from the darkest females in the colour pattern of the abdomen (Figs. 8 vs. 9).

M. latithoracica has so far been collected from the Central Ryukyus (Japan) and Taiwan. Between these are located many islands belonging to the Southern Ryukyus. Although it has not yet been found in the Southern Ryukyus, with an apparent distribution gap between the Central Ryukyus and Taiwan, this might simply reflect insufficient surveys in the former.

A few species seem to be related to *M. latithoracica*. Ikeda (2010) discussed the relationships between *M. latithoracica* (as an undescribed species), *M. gigantea*

Žabka, 1985 and *M. magna* Saito, 1933, and identified *M. latithoracica* as *M. gigantea*. However, *M. latithoracica* and *M. gigantea* can be distinguished clearly from each other by mainly (1) male chelicera having two spurs on inner edge in *M. gigantea* but lacking in *M. latithoracica* and (2) spermatheca ducts of the epigyne having a twist in *M. gigantea* but lacking a twist in *M. latithoracica*. *M. magna* also can be distinguished from *M. latithoracica* by (1) the constriction between the head and thorax being much shallower in *M. latithoracica* than in *M. magna*, (2) the length of the chelicerae in the males being distinctly shorter in *M. latithoracica* than in *M. magna*, and (3) leg formula being IV-I-III-II in *M. latithoracica* but I-IV-III=II (II as long as III) in *M. magna*.

Although *M. magna* is redescribed by Huang (2004) from Taiwan, the redescription of *M. magna* does not completely match with the original description by Saito (1933). The original description of *M. magna* is lacking in some characters which are considered to be important in the taxonomy of the genus *Myrmarachne*, and the examination of the type material specimen is needed for the correct identification. However, according to Ikeda (2010), the type depositary of *M. magna* is unknown.

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